

PATENT ABSTRACTS OF JAPAN

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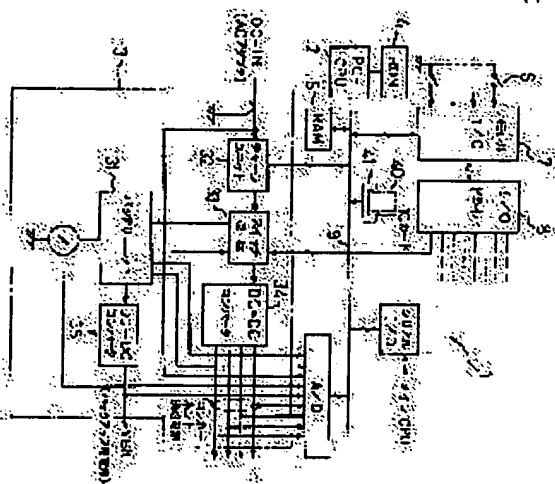
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(54) PORTABLE COMPUTER

(57)Abstract:

PURPOSE: To normally operate a system by a card only having special identification information owned by a fair user, to make unable a system action by an unfair third party and to prevent the theft and misappropriation including the software of a computer main body by setting a power forcible interruption mode by checking the fairness of the user to 'effective' in an easy-to-carry portable computer.

CONSTITUTION: The computer has a connection port (IC card interface) 40 of a special card, a special card (IC card having an identification function) 41 connected to the same connection port, and a processor 2 to read the information of the same card 41, judge the fairness of the system use and interrupt all or a part of the system power when the fairness is not confirmed, and by the presentation of the special card to the system main body, the fair user only secures the inputting condition of the system power and the system can be normally operated.



LEGAL STATUS

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EFFECT OF THE INVENTION

[Effect of the Invention] As a full account was given above, in this invention, it sets to the easy portable computer of carrying. The end connection of a specific card, It has a means to read the information on the specific card connected to this end connection, and a power control means to intercept all or a part of system power when the justification of system usage is judged from this reading information and justification is not checked. By presentation of the specific card to the main part of a system, only the just user secured the injection state of system power, and the system was considered as the composition in which it can work normally. Therefore, the unjust use by the third person can be eliminated and a theft and surreptitious use including the software of the main part of a computer can be prevented.

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PRIOR ART

[Description of the Prior Art] while it turns small lightweight and, as for a personal computer, carrying turns easily more increasingly in recent years -- high performance -- it has had advanced features Especially, in recent years, personal computers, such as a laptop type which carried bulk stores, such as a hard disk drive (HDD) and a RAM pack, and in which a dc-battery drive is possible, and a book type, spread widely, and are utilized in various fields.

[0003] Although the ease of carrying is the big feature, it follows on this, and this kind of personal computer is a theft, the technical problem that the cure against surreptitious use is big, and intermediary ****. That is, it becomes the technical problem that the theft and the cure against surreptitious use covering [a theft and surreptitious use are easy, and asset value is accumulating advanced and important, very high information in many cases in the highly efficient small personal computer which carried bulk stores, such as a hard disk drive and a mass IC memory, especially, and] hardware and software both sides including surreptitious use of such information are big although small personal computers, such as a laptop type and a book type, are easy to carry therefore.

[0004] However, in this kind of conventional small personal computer, sufficient measures were not taken at all to a theft and surreptitious use, but when the important high information on confidentiality was treated, it had left the problem.

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TECHNICAL FIELD

[Industrial Application] this invention relates to the portable computer equipped with the anti-theft mechanism.

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MEANS

[Means for Solving the Problem] In a portable computer with this invention easy to carry The end connection of a specific card, It has a means to read the information on the specific card connected to this end connection, and a power control means to intercept all or a part of system power when the justification of system usage is judged from this reading information and justification is not checked. It is what only the just user could secure the injection state of system power, and considered the system as the composition in which it can work normally by presentation of the specific card to the main part of a system. The unjust use by the third person can be eliminated by this, and a theft and surreptitious use including the software of the main part of a computer can be prevented.

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OPERATION

[Function] In case a portable computer is used, the contents of this card are read by what the specific card (ID card) which only a just user has in the end connection of the specific card prepared in the main part of a portable computer is inserted for (it shows a main part), and the justification of system usage is judged. When justification is not checked here, all or a part of system power is intercepted compulsorily, and it becomes impossible normal to system operate it. Thereby, except a just system-usage person, a system cannot be used normally but the theft of the main part of a system and surreptitious use can be prevented as a result.

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EXAMPLE

[Example] With reference to a drawing, one example of this invention is explained below.

[0010] Drawing 1 is the block diagram showing the composition of the portable computer equipped with the anti-theft mechanism by one example of this invention. Moreover, drawing 2 is the block diagram showing the composition of the anti-theft mechanism connected to the power unit 1 shown in above-mentioned drawing 1, and this power unit 1.

[0011] Here, the composition which realized the anti-theft mechanism using the microprocessor of the intelligent power supply (power unit) which carries out the centralized control of the system power is illustrated.

[0012] In drawing 1 is the intelligent power supply (here, a power unit is called) equipped with the microprocessor for power control which manages the power control of a system, and is connected to CPU (main CPU) 11 which manages system-wide control through a system bus 10 and the power control interface (PS-IF) 28.

[0013] This power unit 1 has the anti-theft function in which system power is shown in drawing 3 in addition to the original system power control function which carries out a centralized control, and is realized under control of the power control processor (PC-CPU) 2, respectively.

[0014] The power control processor 2 is what always performs the surveillance and control of a power supply irrespective of ON/OFF state of a power supply. Control of the power circuit 3 which generates and outputs the various power supplies for operation for system operation according to the power control program stored in the interior ROM 4, The centralized control of system power including ON/OFF control of the power supply accompanying operation of an electric power switch 6, the charge control according to the charge control parameter of the built-in dc-batteries 31A, 31B, and 31S, etc. is performed. Furthermore, in addition to various kinds of above-mentioned power control processes, the power control processor 2 performs power supply forcible interception control processing by a user's justification check for theft prevention shown in drawing 3.)

[0015] The power control interface (PS-IF) 28 with which the data transmission and reception between a power unit 1 and main CPU 11 are presented sends and receives data through serial I/O of a power unit 1, and serial I/O of a power unit 1 changes into serial data the data which received from the power control processor 2, and sends them out to the power control interface (PS-IF) 28, the power control interface (PS-IF) 28 restores the serial data to a parallel data, and it sends it out to main CPU 11 through a system bus 10.

[0016] The switching circuit 33 which carries out the generation output control of the supply power supply to each component in a system is formed in the bottom of control of the power control processor 2 through the I/O driver 8 at the power circuit 3 which makes the main

components of the above-mentioned power unit 1. That is, this switching circuit 33 controls charge of the dc-battery unit 31 while it inputs each output power supply of the dc-battery unit 31 which becomes with each above-mentioned dc-battery (31A, 31B, 31S), and the power supply adapter 29 as a primary power supply and carries out the output control of the primary power supply to the bottom of control of the power control processor 2 to DC-DC converter 34.

[0017] By receiving a primary power supply through a switching circuit 33, DC-DC converter 34 generates the power supply for operation of each component in a system (secondary power supply), and supplies it to each component.

[0018] Here, with a just user's check mentioned later, when it judges that it is an unjust user, by the power control of the power control processor 2, the instructions which intercept the current supply to DC-DC converter 34 to a switching circuit 33 are sent through the I/O driver 8, and the output power supply of DC-DC converter 34 is compulsorily intercepted according to these instructions.

[0019] Under the present circumstances, the power supply (VBK) for backup does not receive control of the above-mentioned switching circuit 33, but firm output is carried out.

[0020] Moreover, the anti-theft function part using the ID card (IC card with a discernment function) which becomes by the component of signs 40 and 41 is prepared in the power unit 1 with the power control processor 2.

[0021] That is, 40 is the IC card interface with the exclusive connector with a discernment function of an IC card connected to the internal bus 9 of a power unit 1, and realizes IC card access of the power control processor 2. The card slot of this IC card interface 40 is prepared in the regular position of the main part of a system, for example, the side of a display panel, the side of a main part, etc.

[0022] 41 is an ID card connected to the connector of the IC card interface 40, an IC card with specific identification information is realized, and predetermined information including code information peculiar to a user or equipment is recorded here. IC card 41 with this discernment function is always shown to the main part of a system at the time of system usage (connector connection is made at the IC card interface 40).

[0023] In addition, in drawing 1 and drawing 2, each of other component except the above-mentioned component is shown, for example in JP,2-166209,A, JP,3-27413,A, JP,3-27414,A, etc. in detail, and the explanation is omitted about the component which is not directly related to this invention here.

[0024] Drawing 3 is a flow chart which shows the processing flow which realizes the anti-theft mechanism of the above-mentioned example, is performed under control of the power control processor 2 according to the micro program stored in the interior ROM 4, and omits and shows the detail of power control here.

[0025] Here explains operation in one example of this invention with reference to each above-mentioned drawing.

[0026] The power control processor 2 always performs the surveillance and control of a power supply according to the power control program stored in the interior ROM 4 irrespective of ON/OFF state of a power supply.

[0027] That is, the power control processor 2 performs control processing of theft prevention shown in drawing 3 while it performs processing of the power control program stored in the interior ROM 4 and performs system power control of ON/OFF control of a power supply, charge control, etc.

[0028] Control processing of this theft prevention is alternatively performed by the mode setting which sets up effective/invalid of theft prevention, and is performed here more nearly alternatively than choosing whether power supply forcible interception mode by a user's justification check "is confirmed [or]" on a setup screen, and whether it considers as an "invalid."

[0029] Under the present circumstances, selection of effective/invalid in the power supply forcible interception mode by a user's justification check sends out the flag information which shows the selection state (effective/invalid) to the power control processor 2 of a power unit 1 under control of main CPU 11. That is, the mode setting flag (M flag is called below) which shows the above-mentioned selection state

(effective/invalid) is sent out to the power control processor 2 through a system bus 10 and the power control interface (PS-IF) 28, and is stored in the predetermined register field A of the interior RAM 5 here. At the time of ON, this M flag shows that the power supply forcible interception mode by a user's justification check is "effective", and shows that this mode is an "invalid" at the time of OFF.

[0030] In flag setting processing, the power control processor 2 judges the content of the above-mentioned M flag (drawing 3 step S11), and when the content of M flag is ON, it judges whether IC card 41 which has a discernment function in the connector of the IC card interface 40 is connected (drawing 3 step S12).

[0031] Here, if IC card 41 is connected, C flag which shows that is turned ON and the information on the flag is stored in the predetermined register field B of the interior RAM 5 (drawing 3 step S13).

[0032] Moreover, by ON, M flag performs power-off processing compulsorily, if IC card 41 is not connected.

[0033] Following setting processing of the above-mentioned flag, the power control processor 2 performs distinction processing of a flag, and reads the information on IC card 41 through the connector of the IC card interface 40 as M flag is ON (drawing 3 steps S21 and S22).

[0034] Under the present circumstances, since the respectively right identification information cannot be read when IC card 41 in which M flag does not have regular identification information when IC card 41 is not connected to the connector of the IC card interface 40 by ON is connected to the connector of the IC card interface 40, it judges that it is an unjust user and power-off processing is performed compulsorily (drawing 3 step S23).

[0035] Namely, the power control processor 2 collates with the information for a check in which the identification information read from IC card 41 with a discernment function is beforehand stored in the interior RAM 5. Although it shifts to consecutiveness processing as it is when IC card 41 connected to the connector of the IC card interface 40 is a card which judged whether it was the card which the just user presented, and the just user presented When it judges that it is not the card which the just user presented, power-off processing is performed compulsorily and system power is intercepted compulsorily.

[0036] By sending out a power supply interception command to the switching circuit 33 in a power circuit 3 through the internal bus 9 and the I/O driver 8, and intercepting compulsorily the output power supply of DC-DC converter 34 under control of the power control processor 2, according to this command, supply of the power supply for operation to each component in a system is severed, and it becomes impossible system operating the processing control in this case.

[0037] Moreover, when it has recognized that it is a just user from the identification information read from IC card 41, with ON operation of an electric power switch 6, compulsory power-off processing is not performed, but the output power supply of the dc-battery unit 31 or the power supply adapter 29 is supplied to DC-DC converter 34 through a switching circuit 33, from DC-DC converter 34, the power supply for system operation is generated and each component is supplied.

[0038] Thus, by setting the power supply forcible interception mode by a user's justification check as "effective", only by IC card 41 which a just user owns, a system can be worked normally, system operation by the unjust third person is made impossible, and the theft of the main part of a system and surreptitious use can be prevented.

[0039] In addition, in the above-mentioned example, although the anti-theft mechanism was realized using the power control processor 2 which a power unit 1 builds in, you may be the composition realized by processing of not only this but main CPU11, composition with the COP only for anti-theft, etc.

[0040] Moreover, arrangement of each component of the system configuration of the equipment set as the object of theft prevention and an anti-theft mechanism etc. is not limited to the above-mentioned example, and can apply this invention in the system of various composition. [0041] Moreover, in the above-mentioned example, although the IC card which has specific identification information as an ID card was

used, you may use the card which prepared not only this but a magnetic stripe, embossing, etc.

[0042] Moreover, in the above-mentioned example, although considered as the object of compulsive interception of all the system powers, except the power supply (VBK) for backup Not only in this, for example, a hard disk drive (HDD) 31, main CPU 11 grade, Are good also as an object of compulsive interception of the power supply supplied to a certain specific component, and what is necessary is just the power supply interception control which will be in the state where normal operation is not securable in short with compulsive interception of a power supply, or a certain limited state where it can do only to processing of the range.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] this invention relates to the portable computer equipped with the anti-theft mechanism.

[0002]

[Description of the Prior Art] while it turns small lightweight and, as for a personal computer, carrying turns easily more increasingly in recent years -- high performance -- it has had advanced features Especially, in recent years, personal computers, such as a laptop type which carried bulk stores, such as a hard disk drive (HDD) and a RAM pack, and in which a dc-battery drive is possible, and a book type, spread widely, and are utilized in various fields.

[0003] Although the ease of carrying is the big feature, it follows on this, and this kind of personal computer is a theft, the technical problem that the cure against surreptitious use is big, and intermediary ****. That is, it becomes the technical problem that the theft and the cure against surreptitious use covering [a theft and surreptitious use are easy, and asset value is accumulating advanced and important, very high information in many cases in the highly efficient small personal computer which carried bulk stores, such as a hard disk drive and a mass IC memory, especially, and] hardware and software both sides including surreptitious use of such information are big although small personal computers, such as a laptop type and a book type, are easy to carry therefore.

[0004] However, in this kind of conventional small personal computer, sufficient measures were not taken at all to a theft and surreptitious use, but when the important high information on confidentiality was treated, it had left the problem.

[0005]

[Problem(s) to be Solved by the Invention] As described above, in the former, a theft and the measures against surreptitious use are not fully taken in a small personal computer, but in recent years, carrying is especially easy, and high performance and a mass small personal computer come to appear, and the reliable theft and the cure against surreptitious use have become indispensable.

[0006] this invention was made in view of the above-mentioned actual condition, makes system operation impossible on the occasion of the unjust use by the third person, and it aims at offering the portable computer which aimed at and had theft prevention of the main part of a computer, and realized the theft of both hardware and software, and the surreptitious use prevention function.

[0007]

[Means for Solving the Problem] In a portable computer with this invention easy to carry The end connection of a specific card, It has a

means to read the information on the specific card connected to this end connection, and a power control means to intercept all or a part of system power when the justification of system usage is judged from this reading information and justification is not checked. It is what only the just user could secure the injection state of system power, and considered the system as the composition in which it can work normally by presentation of the specific card to the main part of a system. The unjust use by the third person can be eliminated by this, and a theft and surreptitious use including the software of the main part of a computer can be prevented.

[0008]

[Function] In case a portable computer is used, the content of this card is read by what the specific card (ID card) which only a just user has in the end connection of the specific card prepared in the main part of a portable computer is inserted for (it shows a main part), and the justification of system usage is judged. When justification is not checked here, all or a part of system power is intercepted compulsorily, and it becomes impossible normal to system operate it. Thereby, except a just system-usage person, a system cannot be used normally but the theft of the main part of a system and surreptitious use can be prevented as a result.

[0009]

[Example] With reference to a drawing, one example of this invention is explained below.

[0010] Drawing 1 is the block diagram showing the composition of the portable computer equipped with the anti-theft mechanism by one example of this invention. Moreover, drawing 2 is the block diagram showing the composition of the anti-theft mechanism connected to the power unit 1 shown in above-mentioned drawing 1, and this power unit 1.

[0011] Here, the composition which realized the anti-theft mechanism using the microprocessor of the intelligent power supply (power unit) which carries out the centralized control of the system power is illustrated.

[0012] In drawing 1 is the intelligent power supply (here, a power unit is called) equipped with the microprocessor for power control which manages the power control of a system, and is connected to CPU (main CPU) 11 which manages system-wide control through a system bus 10 and the power control interface (PS-IF) 28.

[0013] This power unit 1 has the anti-theft function in which system power is shown in drawing 3 in addition to the original system power control function which carries out a centralized control, and is realized under control of the power control processor (PC-CPU) 2, respectively.

[0014] The power control processor 2 is what always performs the surveillance and control of a power supply irrespective of ON/OFF state of a power supply. Control of the power circuit 3 which generates and outputs the various power supplies for operation for system operation according to the power control program stored in the interior ROM 4, The centralized control of system power including ON/OFF control of the power supply accompanying operation of an electric power switch 6, the charge control according to the charge control parameter of the built-in de-batteries 31A, 31B, and 31S, etc. is performed. Furthermore, in addition to various kinds of above-mentioned power control processes, the power control processor 2 performs power supply forcible interception control processing by a user's justification check for theft prevention shown in drawing 3.

[0015] The power control interface (PS-IF) 28 with which the data transmission and reception between a power unit 1 and main CPU 11 are presented sends and receives data through serial I/O of a power unit 1, and serial I/O of a power unit 1 changes into serial data the data which received from the power control processor 2, and sends them out to the power control interface (PS-IF) 28, the power control interface (PS-IF) 28 restores the serial data to a parallel data, and it sends it out to main CPU 11 through a system bus 10.

[0016] The switching circuit 33 which carries out the generation output control of the supply power supply to each component in a system is formed in the bottom of control of the power control processor 2 through the I/O driver 8 at the power circuit 3 which makes the main

components of the above-mentioned power unit 1. That is, this switching circuit 33 controls charge of the dc-battery unit 31 while it inputs each output power supply of the dc-battery unit 31 which becomes with each above-mentioned dc-battery (31A, 31B, 31S), and the power supply adapter 29 as a primary power supply and carries out the output control of the primary power supply to the bottom of control of the power control processor 2 to DC-DC converter 34.

[0017] By receiving a primary power supply through a switching circuit 33, DC-DC converter 34 generates the power supply for operation of each component in a system (secondary power supply), and supplies it to each component.

[0018] Here, with a just user's check mentioned later, when it judges that it is an unjust user, by the power control of the power control processor 2, the instructions which intercept the current supply to DC-DC converter 34 to a switching circuit 33 are sent through the I/O driver 8, and the output power supply of DC-DC converter 34 is compulsorily intercepted according to these instructions.

[0019] Under the present circumstances, the power supply (VBK) for backup does not receive control of the above-mentioned switching circuit 33, but firm output is carried out.

[0020] Moreover, the anti-theft function part using the ID card (IC card with a discernment function) which becomes by the component of signs 40 and 41 is prepared in the power unit 1 with the power control processor 2.

[0021] That is, 40 is the IC card interface with the exclusive connector with a discernment function of an IC card connected to the internal bus 9 of a power unit 1, and realizes IC card access of the power control processor 2. The card slot of this IC card interface 40 is prepared in the regular position of the main part of a system, for example, the side of a display panel, the side of a main part, etc.

[0022] 41 is an ID card connected to the connector of the IC card interface 40, an IC card with specific identification information is realized, and predetermined information including code information peculiar to a user or equipment is recorded here. IC card 41 with this discernment function is always shown to the main part of a system at the time of system usage (connector connection is made at the IC card interface 40).

[0023] In addition, in drawing 1 and drawing 2, each of other component except the above-mentioned component is shown, for example in JP,2-166209,A, JP,3-27413,A, JP,3-27414,A, etc. in detail, and the explanation is omitted about the component which is not directly related to this invention here.

[0024] Drawing 3 is a flow chart which shows the processing flow which realizes the anti-theft mechanism of the above-mentioned example, is performed under control of the power control processor 2 according to the micro program stored in the interior ROM 4, and omits and shows the detail of power control here.

[0025] Here explains operation in one example of this invention with reference to each above-mentioned drawing.

[0026] The power control processor 2 always performs the surveillance and control of a power supply according to the power control program stored in the interior ROM 4 irrespective of ON/OFF state of a power supply.

[0027] That is, the power control processor 2 performs control processing of theft prevention shown in drawing 3 while it performs processing of the power control program stored in the interior ROM 4 and performs system power control of ON/OFF control of a power supply, charge control, etc.

[0028] Control processing of this theft prevention is alternatively performed by the mode setting which sets up effective/invalid of theft prevention, and is performed here more nearly alternatively than choosing whether power supply forcible interception mode by a user's justification check "is confirmed [or]" on a setup screen, and whether it considers as an "invalid."

[0029] Under the present circumstances, selection of effective/invalid in the power supply forcible interception mode by a user's justification check sends out the flag information which shows the selection state (effective/invalid) to the power control processor 2 of a power unit 1 under control of main CPU11. That is, the mode setting flag (M flag is called below) which shows the above-mentioned selection state

(effective/invalid) is sent out to the power control processor 2 through a system bus 10 and the power control interface (PS-IF) 28, and is stored in the predetermined register field A of the interior RAM 5 here. At the time of ON, this M flag shows that the power supply forcible interception mode by a user's justification check is "effective", and shows that this mode is an "invalid" at the time of OFF.

[0030] In flag setting processing, the power control processor 2 judges the content of the above-mentioned M flag (drawing 3 step S11), and when the content of M flag is ON, it judges whether IC card 41 which has a discernment function in the connector of the IC card interface 40 is connected (drawing 3 step S12).

[0031] Here, if IC card 41 is connected, C flag which shows that is turned ON and the information on the flag is stored in the predetermined register field B of the interior RAM 5 (drawing 3 step S13).

[0032] Moreover, by ON, M flag performs power-off processing compulsorily, if IC card 41 is not connected.

[0033] Following setting processing of the above-mentioned flag, the power control processor 2 performs distinction processing of a flag, and reads the information on IC card 41 through the connector of the IC card interface 40 as M flag is ON (drawing 3 steps S21 and S22).

[0034] Under the present circumstances, since the respectively right identification information cannot be read when IC card 41 in which M flag does not have regular identification information when IC card 41 is not connected to the connector of the IC card interface 40 by ON is connected to the connector of the IC card interface 40, it judges that it is an unjust user and power-off processing is performed compulsorily (drawing 3 step S23).

[0035] Namely, the power control processor 2 collates with the information for a check in which the identification information read from IC card 41 with a discernment function is beforehand stored in the interior RAM 5. Although it shifts to consecutiveness processing as it is when IC card 41 connected to the connector of the IC card interface 40 is a card which judged whether it was the card which the just user presented, and the just user presented. When it judges that it is not the card which the just user presented, power-off processing is performed compulsorily and system power is intercepted compulsorily.

[0036] By sending out a power supply interception command to the switching circuit 33 in a power circuit 3 through the internal bus 9 and the I/O driver 8, and intercepting compulsorily the output power supply of DC-DC converter 34 under control of the power control processor 2, according to this command, supply of the power supply for operation to each component in a system is severed, and it becomes impossible system operating the processing control in this case.

[0037] Moreover, when it has recognized that it is a just user from the identification information read from IC card 41, with ON operation of an electric power switch 6, compulsory power-off processing is not performed, but the output power supply of the dc-battery unit 31 or the power supply adapter 29 is supplied to DC-DC converter 34 through a switching circuit 33, from DC-DC converter 34, the power supply for system operation is generated and each component is supplied.

[0038] Thus, by setting the power supply forcible interception mode by a user's justification check as "effective", only by IC card 41 which a just user owns, a system can be worked normally, system operation by the unjust third person is made impossible, and the theft of the main part of a system and surreptitious use can be prevented.

[0039] In addition, in the above-mentioned example, although the anti-theft mechanism was realized using the power control processor 2 which a power unit 1 builds in, you may be the composition realized by processing of not only this but main CPU11, composition with the COP only for anti-theft, etc.

[0040] Moreover, arrangement of each component of the system configuration of the equipment set as the object of theft prevention and an anti-theft mechanism etc. is not limited to the above-mentioned example, and can apply this invention in the system of various composition. [0041] Moreover, in the above-mentioned example, although the IC card which has specific identification information as an ID card was

used, you may use the card which prepared not only this but a magnetic stripe, embossing, etc.

[0042] Moreover, in the above-mentioned example, although considered as the object of compulsive interception of all the system powers except the power supply (VBK) for backup Not only in this, for example, a hard disk drive (HDD) 31, main CPU11 grade, Are good also as an object of compulsive interception of the power supply supplied to a certain specific component, and what is necessary is just the power supply interception control which will be in the state where normal operation is not securable in short with compulsive interception of a power supply, or a certain limited state where it can do only to processing of the range.

[0043]

[Effect of the Invention] As a full account was given above, according to this invention, it sets to the easy portable computer of carrying. The end connection of a specific card, It has a means to read the information on the specific card connected to this end connection, and a power control means to intercept all or a part of system power when the justification of system usage is judged from this reading information and justification is not checked. By only the just user's having secured the injection state of system power, and having considered the system as the composition in which it can work normally by presentation of the specific card to the main part of a system The unjust use by the third person can be eliminated and a theft and surreptitious use including the software of the main part of a computer can be prevented.

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EFFECT OF THE INVENTION

[Effect of the Invention] As a full account was given above, in this invention, it sets to the easy portable computer of carrying. The end connection of a specific card, It has a means to read the information on the specific card connected to this end connection, and a power control means to intercept all or a part of system power when the justification of system usage is judged from this reading information and justification is not checked. By presentation of the specific card to the main part of a system, only the just user secured the injection state of system power, and the system was considered as the composition in which it can work normally. Therefore, the unjust use by the third person can be eliminated and a theft and surreptitious use including the software of the main part of a computer can be prevented.

[Translation done.]

* NOTICES *

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] The block diagram showing the composition of the portable computer equipped with the anti-theft mechanism by one example of this invention.

[Drawing 2] The block diagram showing the composition of the anti-theft mechanism connected to the power unit shown in above-mentioned drawing 1, and this power unit.

[Drawing 3] The flow chart which shows the processing flow of the above-mentioned example of operation.

[Description of Notations]

1 [-- A power circuit, 4 / -- Interior ROM, 5 / -- Interior RAM, 6 / -- An electric power switch, 7 / -- An I/O register (parallel I/O), 8 / -- An I/O driver, 9 / -- An internal bus, 10 / -- A system bus, 11 / -- Main CPU, 28 / -- A power control interface (PS-IF), 31A, 31B, 31S / -- A built-in dc-battery, 40] -- A power unit (intelligent power supply), 2 -- A power control processor

[Translation done.]

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CLAIMS

[Claim(s)]

[Claim 1] The portable computer which possesses a means to read the information on the specific card connected to the end connection and this end connection of a specific card, a means to judge the justification of system usage from this reading information, and a means to intercept all or a part of system power when the above-mentioned justification is not checked, and is characterized by the bird clapper.

[Claim 2] The portable computer which reads the information on the ID card connected to the ID card interface section connected to the microprocessor of the above-mentioned power unit, and the above-mentioned ID card interface section in the portable computer which equipped the power unit with the microprocessor of the exclusive use which performs surveillance of system power, and control, judges the justification of system usage, possesses the control means of the above-mentioned microprocessor which intercepts all or a part of system power when justification is not checked, and is characterized by the bird clapper.

[Claim 3] The portable computer which reads the information on the ID card connected to the ID card interface section by which the bus connection was carried out to the processor which manages system control, and the above-mentioned ID card interface section, judges the justification of system usage, possesses a means to generate a power supply interception command when justification is not checked, and a power control means to intercept all or a part of system power in response to this command, and is characterized by the bird clapper.

[Translation done.]

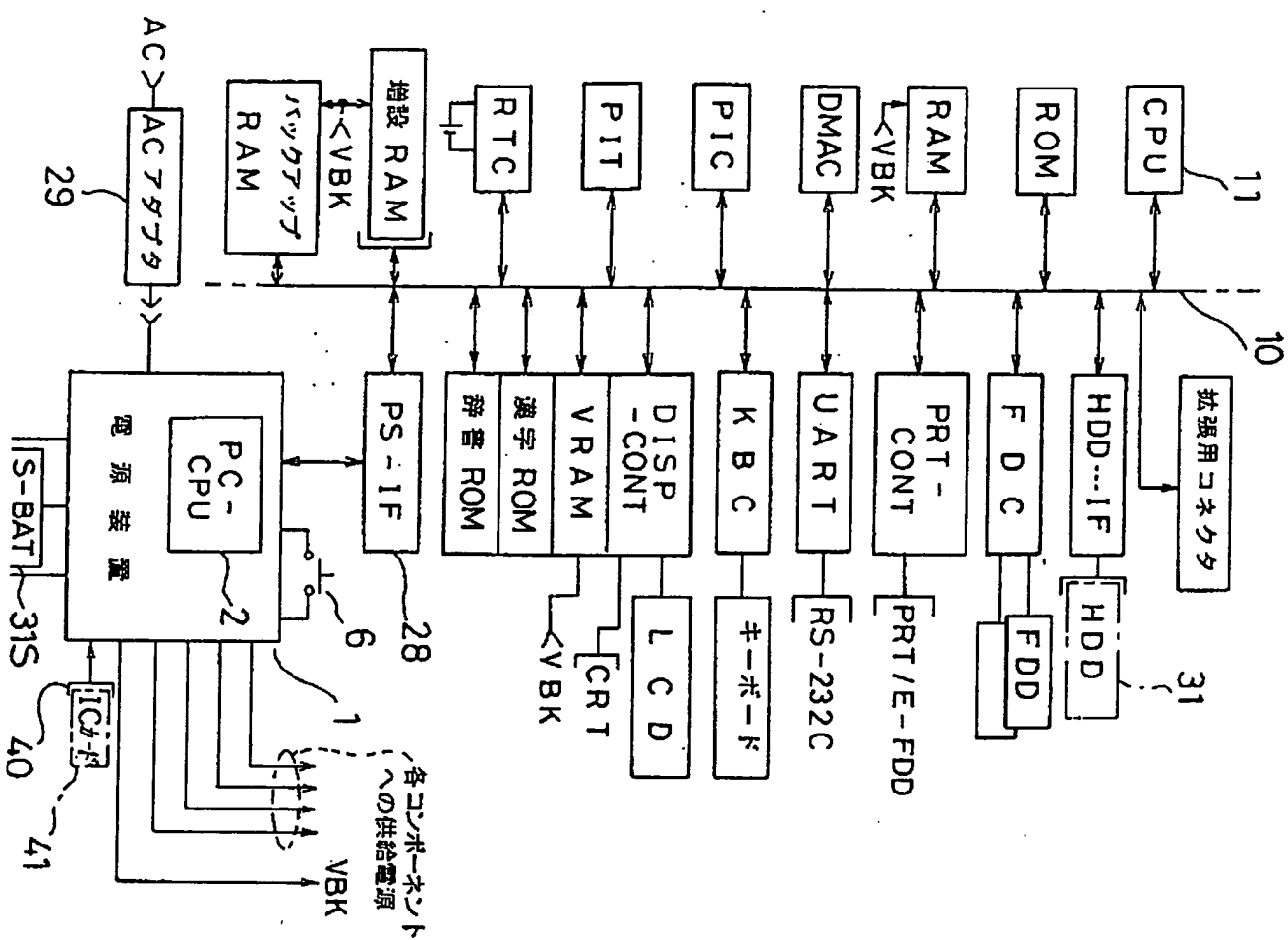
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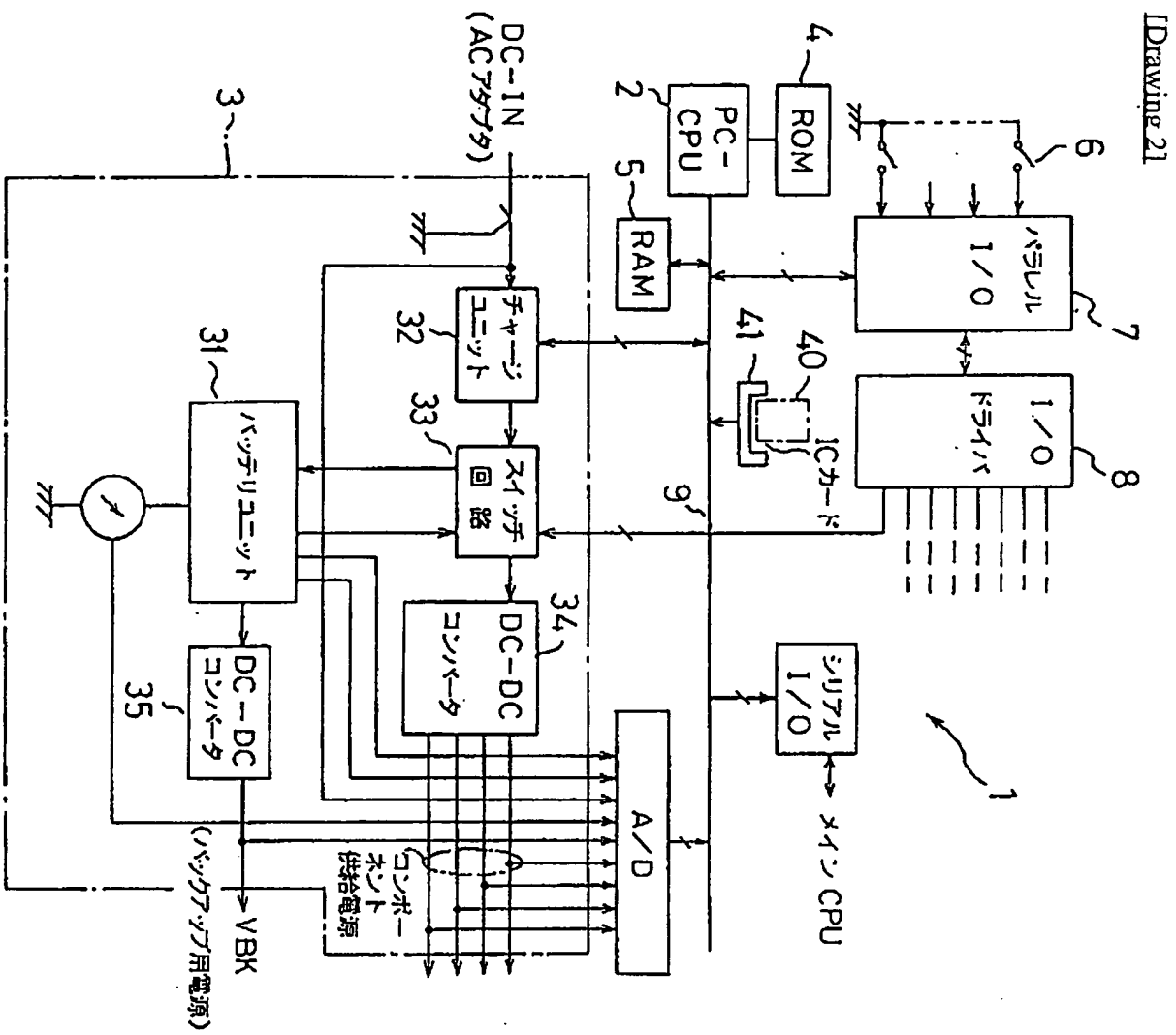
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DRAWINGS

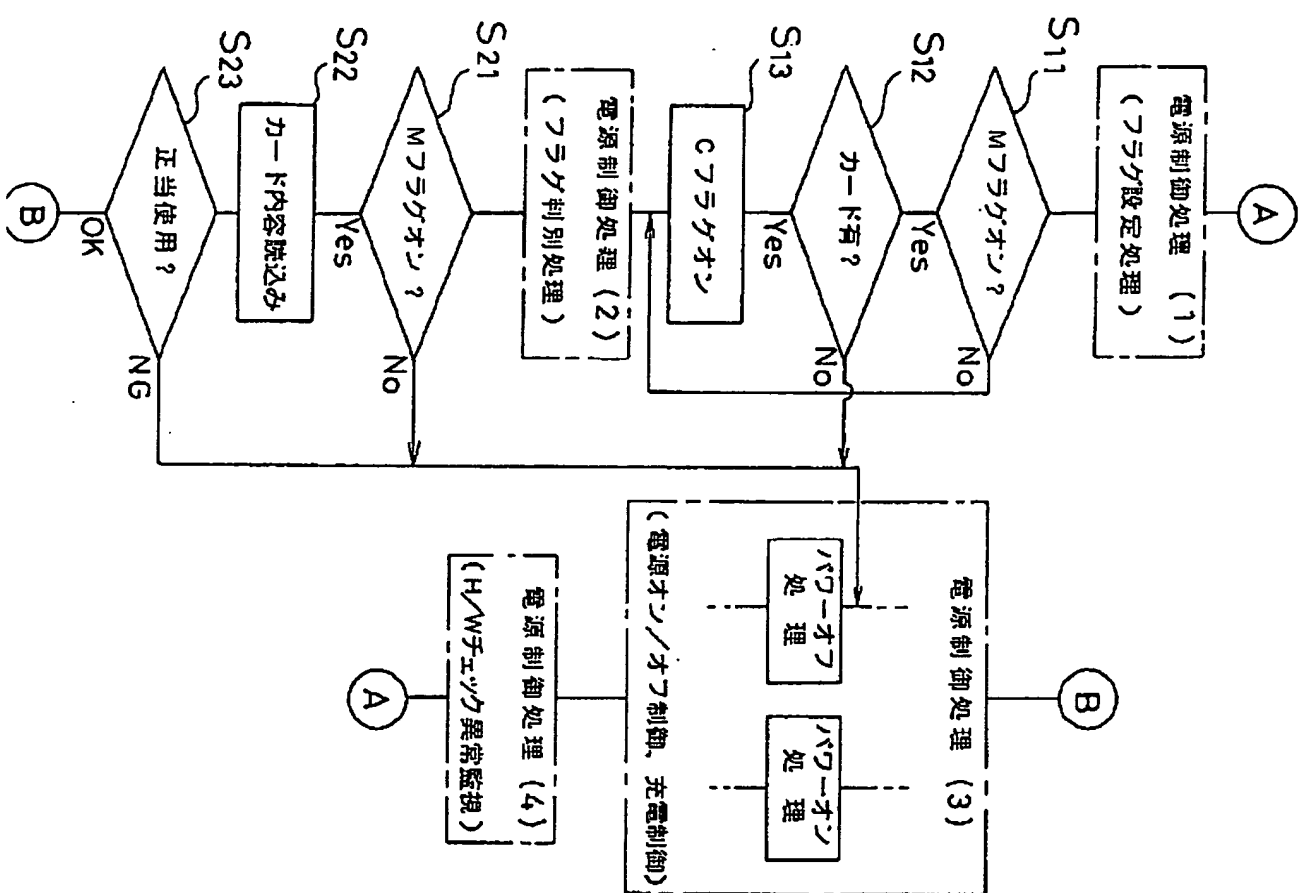
Drawing 11





[Drawing 3]

http://www4.ipdl.jpo.go.jp/cgi-bin/tran_web_cgi_ejje



[Translation done.]